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THE YARUROS OF THE CAPANAPARO RIVER, VENEZUELA

By Vincenzo Petrullo

Introduction

121 The American primitive aborigines are rapidly becoming extinct. Some groups are dying out, and others are being assimilated in the lowest laboring classes of the various nations. In any case, the American aborigines, as first found by the sixteenth century explorers, are rarely met today. Only in a few spots, difficult of access or geographically undesirable to the Euro-American, can one find a few primitive peoples still eking out an existence as did their ancestors of four centuries ago. Some of these groups have had intermittent contact with European culture; others do not even know of it at first hand. It is these tribes which can furnish the key to many problems of American anthropology and to some extent to world anthropology, but there is need for haste in studying them, for they may not survive this generation.

511 A simple hunting and fishing culture is the most primitive economic existence. When such a culture has not been able to lift itself above the wood, shell, and bone stage, it should be ranked among the primary. The presence of the bow and pottery may lift a culture slightly above the Australian, but not very much so. The Yaruro culture described in the following pages can be classified as being on that level. Certainly it is as primitive as the Fuegian. The Yaruros, like most tribes of the South American tropical lowlands, have been handicapped by lack of stone in the country. Wood, shell, and bone were [177] substituted until they came in contact with iron. Today they obtain scraps of iron, which they have learned to fashion into arrow points, from the cattle ranchers, but they would have done just as well without this new material.

511 361 A people like the Yaruros are forced to economize in every aspect of their material culture. Literally they may have only that which they are able to transport with them. All the worldly possessions of each family must be crowded into one small dugout canoe. The

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511 superfluous needs to be dispensed with every time camp is moved,
361 which occurs every few days. Only in thoughts and feelings can they be as rich as any other people; but this requires a particular kind of temperament possessed by only a few individuals in the tribe.

182 Their economic life, social organization, mythology, and religion form a well-knit pattern of existence. There are no loose ends, but a knot here and there appears in the form of vagueness or contradiction. But I think that the fault lies with us who would introduce our type of organization into their knowledge. We expect more from a primitive group than we ourselves could offer. Besides, it is doubtful whether we ever present the picture of their culture as they see it; if we did we might not understand or we might even be surprised at its orderliness.

177 Although the Yaruros have been in touch with Euro-American cul-
121 ture for several centuries they have borrowed remarkably little. What culture they possessed several centuries ago we do not know. There is practically no information about them in the literature. There is justification, therefore, in publishing this record, in spite of many apparent deficiencies. Since plans for another visit to fill in the gaps in my field notes have not materialized and the Yaruros may be gone before another ethnologist can live with them it seems advisable to make this material available.

121 Anthropology, among other things, is concerned with the interrelationships of groups of men and with the functions of social structures as developed by man and his environment. I have tried to keep in mind that in presenting a first account of an unknown people it may not be at all out of place to draw a general but intimate picture of the daily life of the Yaruros, their emotional, cognitive and conative responses to the world about them, and even their attitude toward the ethnologist who appeared among them with only the objective of hold-
123 ing friendly conversations about themselves. At first they were suspicious, but they soon caught the point and enjoyed the experience as much as I did. An attempt has been made to give these pictures, and to explain the series of events which made possible with these nomads the intimate association that followed the first few days of unfriendliness.

124 No attempt has been made to reconcile differences in the information
128 obtained from various informants, not even if there is a contradiction. It was the first time that the Yaruros had been asked to organize their knowledge of their own culture; contradictions and vagueness were to be expected. My informants were exclusively men, even for those
123 phases of culture which admittedly belong to the female world. A cultural obstacle which I respected prevented any direct social intercourse with the women. The women's domain is respected by the

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It is well to note that the llanos form a sort of cul-de-sac from which there is only one escape, and that is by way of the Orinoco River. It is quite likely that the llanos have been the camping grounds and the highway for a number of tribes migrating northward, southward, or eastward. For peoples practicing agriculture, Guiana and the lower Orinoco region would be more suitable than the plains of Apure, where, on account of the strong winds and the sandy soil, it is difficult to carry on any cultivation of the soil. The mountainous regions to the north and west are also fit for agriculture. Therefore it was only the culturally poorer tribes that would remain in the llanos.

We have, therefore, in the following pages, a people who are primitive hunters, whose history is unknown, who do not seem to be linguistically related to any other group, and whose appearance is strongly mongoloid—who have been in contact not only with foreign indigenous culture but with some European culture, and who are facing physical and cultural extinction. Perhaps this last fact should be allowed to dominate this study, because it can throw into relief much of Yaruro culture and will remind us that anthropology is not so much signs of things as the signs of man, and that his problems and the way he solves them is as important, if not more important, than purely historical problems and theories. The opportunity of studying religion, social organization, and general spiritual culture of a South American tribe was so strong that during my stay with the Yaruros I concentrated with these phases of their culture rather than on the material phases or linguistic problems.

My Journey To and Life With the Yaruros

Contact with the Yaruros is not easy. No one ever knows near what water hole or at what point on the river these nomads may be found. Several centuries of maltreatment have made them shy and suspicious of strangers and particularly of all "Racionales." Primitive and loosely organized, they could not and cannot today offer any effective resistance to civilized groups which may want to exploit them. At the time of my visit everyone along our route was indignant over the treatment that about 150 Yaruros had received at the hands of unknown local "jefes civiles" about a month before. They were seized and matcheted to death, reducing the total population of this tribe (excluding bands that may be hidden along the Sinaruco River) to one-half. My presence in their midst naturally aroused fears that some fresh calamity was about to befall them.

In the rainy season there is only one way of penetrating the llanos of Apure, and that is by boat. From the Orinoco one can sail or

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At night each family group lay on the sands
521 talking a little, laughing a little. I made it a custom of visiting every night, and usually the men gathered around. The women, keeping in the background, made all sorts of inquiries concerning my country and people, but always through the men.

831 One cannot live on intimate terms with a group of people a week
123 without learning something of their sexual attitudes. Only too often is this factor dangled in front of him, so that if he were to base his report on recurrent experiences and situations it would be largely made up of sex and sex problems. However, the sexual element is strongly present, but it is in normal cases a simple matter.

● 121 A simple matter but of exceeding importance if we are to believe the psychologists. Basic to life, and to social organization, the attitude toward it has its effect on the life of the individual and on the culture, but equal the make-up of the indidivual and the culture produces the sexual attitude.

836 To begin with, this writer does not know anything about the sexual development of Yaruro boy or girl. He does not know what secret sexual play the children may indulge in, nor does he know whether the unmarried girl has any sexual relations. He thinks that the un-
838 married do. He also thinks that there is some kind of homosexuality among the boys, and even the men. The following is based on what he observed, heard, and saw without any undue prying about.

857 The sexes are kept apart from infancy. A baby girl is launched
855 into her future career as a woman almost from birth. She is the
593 special care of the mother and women folk. When she is able to play she plays alone, with other girls, or with the women. She never plays with the boys. When she is able to work she helps her mother, never her father nor her elder brothers. She may be helped in her work by her brother.

593 It is impossible to claim that the attachment is stronger between the mother and children than between the father and daughter. It would be necessary to investigate the problem from the psychological point of view. But such is the case socially and economically.

The maternal uncle does to a certain degree substitute for the father, but this substitution is formal and social.

867 From babyhood the child learns his relationship to those about
602 him. One woman is its mother. She it is who gives suck, holds, etc. Later he learns that he must call other women mother also. These are the sisters of his true mother. One man he learns to call father. This man is the one who is most with his mother, in whose canoe
602 they travel, etc. Other men he calls father also, the brothers of his true father. Thus relationships are defined sexually, familiarly, and formally. In respect to girls of his own age he learns that some he calls sisters and others by terms whose equivalent may be rendered

YARURO INCIPIENT TROPICAL FOREST HORTICULTURE

Possibilities and Limits

Anthony LEEDS

The immediate concern of the papers in this symposium is the interaction between human populations and their habitats through the agency of horticulture insofar as factors in this interaction result in the evolution of culture. The present paper discusses an Incipient Tropical Forest Slash-and-Burn Horticultural group, the Yaruro of the south-central Venezuelan llanos, in order to show what kinds of upper limits were set upon its development by its technology and habitat, or both, and what sorts of factors within the relatively limiting conditions of incipient tropical forest horticulture might have provided a foundation for evolution to a more developed state. For any of the cultures which are examples of this class of horticulturalists, slash-and-burn horticulture plays a considerable, but usually not, by itself, a dominating role in the total food procurement process. The Yaruro fall between the Incipient and Intermediate Tropical Forest types discussed in the introduction, whereas the Siriono, for example, represent a culture near the lower limits of cultures of the type. Despite their somewhat more advanced condition, what pertains to the Yaruro, in a general way applies to the rest of the type.

We shall consider first the habitat conditions in which the Yaruro find themselves and then describe the major dimensions of their swidden horticultural technology. With these aspects of the total ecology before us we shall show how its characteristics provide us a model for our incipient tropical forest stage and at the same time demonstrate how its special ecological conditions inhibited its further evolution into the more advanced stages of horticulture.

The Venezuelan llanos stretch as a low inland plain from the Orinoco delta, W by WSW, 750-800 miles inland, to the edges of the Andes in the far west of Apure State and into Eastern Colombia. The Yaruro are found between 450 and 600 miles from the mouth of the Orinoco, but still inside Venezuelan frontiers. They are found on all the rivers from the Arauca to the Cinaruco, inclusive, a distance of about 90 miles from north to south.

[probably should read: which--Analyst]

311 In short, the habitat conditions are as follows, given that the Cinaruco
22 Yaruro have a technology including hunting, gathering, fishing, and animal husbandry, and horticulture. All resources are found within a narrow band of about 4-5 miles between the Cinaruco river and the high sand dunes occurring in the interfluve to the north, in which only an occasional deer is found. Within this space there are three major resource areas distinguishable: 1) the open savanas for hunting and gathering, the former involving much greater dispersion of resources than the latter and consequently quite different techno-social conditions. Both activities change location markedly with the seasons. 2) The rivers and *caños* are used for water-animal hunting and for fishing. Fishing also displays a seasonal shift between river and *caño*, whereas river hunting for alligator and turtle becomes totally impracticable in the wet season. 3) The wooded areas, themselves dispersed, include the gallery forests of smaller streams where flooding is limited but water
[241] and soil abundant and the *montes* occurring here and there in mid-savana. These areas provide the Yaruro with garden sites. Away from the streams, there are also occasional tiny patches of suitable soil not close enough to the water table for dry season use, but which get enough rain to be used for planting of seasonal crops in the wet season. Schematically, the situation is shown on Table II_{A}^{1} a list of foods entering into Yaruro economy and their relative seasonal occurrences, and on Maps I and II_{A}^{2} of the seasonal locations of these resources.

182 The particular relationship between a peculiar habitat, such as the one we have just described, and the technology operating within it, here preponderantly a swidden technology, sets upper limits to territorial, socio-economic, or cultural expansion, and limits to changes in socio-cultural forms. With regard to the habitat dimension of the relationship, we may
● [121] say in Harris's words, "Limitations imposed by the manner in which plants and animals convert solar energy into comestible material in combination with the availability of land and water resources, the rate of reproduction of the natural biota, and the total ecological balance, furnish conditions unalterable by individual or collective whim", $^{1}_{A}$ at least with the given level of technological development possessed by the Yaruro. The Yaruro are in no position to change the total ecological balance, to increase the carrying capacity of the land or water for plant or animal species. For
182 example, under the llanos conditions, the use of slash-and-burn horticulture exhausts arable land at a rate greater than it recovers. The proportion of
241 land held in reserve for future cultivation must be several times greater
311 than that under cultivation at any given moment, the proportion varying with such factors as the rate of fertility recovery, the type of weed and grass invasion, the rate of growth of the secondary forest, the rate of mechanical reconstruction of the soil, and so on. Thus of the total amount of land potentially available in a given expanse of territory, only a part can be horticulturally exploited at any one time. Where the total potentially arable land in a given expanse is itself only a small proportion of the total area, the amount of land available for cultivation at any one moment is, of course, minute. This ecological balance in turn limits the human population

1[1] [See pp. 31-39, category 116 -- Analyst]
1[2] [See pp. 40-41, category 102 -- Analyst]
1[3] [For footnote, see p. 42, category 116 -- Analyst]

50% of the diet or a little less. The ideal figures would again be reduced, on the other hand, by allowing for the predations on gardens of animals, especially the pigs, which eat manioc and corn, the Guahibo Indians who allegedly steal sugar cane, and insect losses. Our figures, then, will be modified only a few units by the additional sources of foods. We may thus revise our population figure to between 100 and 105 (or, if a 15-year fallow period is assumed, the figure would be 75-80), figures which correspond to the Yaruro's own ideal of what a proper population for this area should be. If the population increased beyond this number of people, the Yaruro would have to exploit their gardens at a rate greater than the rate of land reconstitution, and also expand hunting, fishing, and gathering beyond the average long-term carrying capacity of the savanas and the rivers, thus reducing their potential productivity. Adding together the maximum populations supportable by these food resources, as well as by the recently introduced pigs, a figure approximating 125-150 persons might be reasonable for this particular territory. This gives a density of 2 persons per sq. mile, a characteristic figure for tropical forest tribes.[13]

If the population rose beyond this maximum capacity of the land-technology relationship, groups would either have to fission off, go on the warpath, regulate population by any of a number of internal institutions such as infanticide, or die either from extreme famines or from steady nutritional deficiency. Under present population conditions none of these is necessary, yet both fissioning and population regulation by contraception occur. Fissioning appears to be fostered by the search for settlement locations requiring minimum labor for maximum return and also to establish community authority under the person leading the fissioning group independent of that excercised by the community from which fissioning took place. Contraception appears to be a matter of choice revolving about maintaining a certain freedom from the cares of motherhood until such time as the marriage partners are reasonably convinced that the marriage is permanent. Indirectly, this contributes to the distribution of more effective female producers among the more effective male producers in the most productive areas, since a second marriage often involves shifting to a generally more effective husband whereas a shift to a less effective husband is scarcely to be found. Both fissioning and contraception, however, give evidence of techniques which were developed to handle man-food balance in happier days.

A number of formal characteristics of any ecology may permit us to deduce the form of society which would be expected on the basis of such characteristics. In so far as the ecological forms were to remain essentially unchanged over great periods of time, no changes in the forms of the social order attached to the ecological conditions would be expected. An internal equilibrium is maintained until such time as a dynamic imbalance occurs because of changes from internal or external sources. It is essential to examine to what extent the internal equilibrium prevents or fosters the occurence of dynamic imbalances in any particular ecological setting. We shall return to this question after the following itemization of Yaruro ecological forms.

[15] [For footnote see p. 43, category 116.--Analyst]

mother's and sister's households, nevertheless hunted and harvested for himself, and often cooked for himself meals of the type ordinarily cooked only by women. 462 463

The forms and characteristics of surpluses, as defined by Harris, [16]shed further light on the structure of the ecology. The technological surplus, defined as the difference between total calories annually produced by any definable group and the calories used to produce them, or as the ratio between these two figures, may be estimated at about 8 or 9 to 1 as compared with Harris's estimated figures of 2:1 for the Siriono or 33:1 for the Pencuyut Maya. [17] Since as Harris remarks, the degree of social stratification in a large number of cases correlates with the size of the technological surplus, we would scarcely expect to find social stratification among the Yaruro, nor even any significant ranking. Where the technological surplus is low, the producer's surplus, defined as the difference between total calories produced by any given group and the total calories used by the producers for all purposes must also be low. Therefore the number of persons other than producers who can be supported by the producers is also limited. The producers' surplus may provide an index of the degrees of specialization which might be expected. In the case of the Yaruro one would expect no, or very low, specialization. Again, with a low producers' surplus, one would expect to find a greater proportion of the group involved in production than where such surpluses are high, for otherwise there would be insufficient calories to support more than a few people other than the producers. With a low producers' surplus, one would expect, in general, to find a greater proportion of both sexes engaged in the food quest. This is, of course, born out in the case of the Yaruro. Finally, Harris's harvest surplus is defined as the difference between the amount produced at any given moment, especially at seasonal maxima, and the amount consumed at that time. The actual amount consumable is governed by the seasonal *minima*, since the population cannot rise higher than the food supply at minimum periods permits unless special technological features such as storage, are present. Where the harvest surpluses are of non-storable goods, the population level is in equilibrium with the absolute minima of the harvests. The greater the degree of storability through a nonproductive season, or the less marked a crop is by seasonality, the higher the level to which the minimum population can be raised as compared with the number of people supportable at levels of production comparable to those at the time of harvest. Storability, however, is only one dimension of the harvest surplus. Absolute size of the peak surpluses, their regularity over the years, their distribution in space and time in the annual cycle, their utility in raw form, and the proportion of labor needed to harvest them relative to the time allotted for the harvest are all important dimensions of the harvest surplus. Thus, manioc, the Yauro's chief food resource has no clear peak, is regular over the years (the Yaruro disclaim any famines), is storable both in raw form and in prepared forms, is, in the case of the Yaruro, so located as not to permit of a concentration of labor at any one time and needs no massive labor for harvesting because of short harvest periods. Thus, in general, the very nature of manioc as a crop, and the labor requisites for

121 ● 433 182 [56] [463] [462] [262] [251] [241]

16, 17 [For footnotes see p. 43, category 116--Analyst]

harvesting it, require no centralized authority and render it possible and even probable that the management of production or distribution be carried on without it. The same may be said, on the whole, for all the hunting, fishing, and gathering harvests, a notable and probably permanent feature of Yaruro ecology. Perhaps the only crop which has a marked seasonality is corn, but its absolute size in the total production, its geographical distribution in production, and its position relative to all other harvests renders it insignificant as an effective promoter of managerial functions and formal arrangements of social stratification. It is unlikely, given Yaruro ecology that the forms of surplus would change; consequently their concomitants in social structure would remain constant.

On the basis of the formal characteristics of the ecology and of the surpluses one may deduce an essentially egalitarian social organization, with minimal ranking and leadership and with dispersion of the acts of economic distribution among a number of adult males or females any one of whom may produce a small harvest surplus at any time. With a relatively steady and reasonably comfortable total subsistence base, and with ecological arrangements which are spatially repeated in identical form up and down river, no necessity exists for stringent rules of local exogamy as an institution to regulate the labor force by redistributing its members. One would expect frequent marrying in the village according to the convenience of the contractants, and out-marriages to occur either as economic opportunity offered elsewhere or lack of women at home urged one out. The combined biological and productive role of women, with their particularly important technical roles in gathering and in food preparation, suggest sedentary communities and a matrifocal emphasis in the rules of residence. However, the importance and location of the men's economic contribution might be expected to balance this to a degree so that one might deduce male uxorimatrilocal residence but with other, subsidiary patterns. This in fact occurs, occasional male matrilocality or patrilocality [18] comprising the subsidiary residence rules. Political authority would be vested in the community, mainly among its elders, since little or no ranking or stratification is to be expected. In fact, Yaruro socio-political forms, in general, conform to all of these deduced conditions. They represent a model for any society based on the kinds of ecological conditions or form of ecology we have described. Where the ecology is even more restricted the deduced characteristics should be matched even more closely by the observed data. In this respect, the Sirionó, for example, tend to confirm the hypothesis, in that their partial sedentariness which revolves about horticulture is associated with matrifocal social organization: matrilocality and matrilateral cross-cousin marriage. They also possess autonomous local communities. [19] The Apinayé also tend to confirm the hypothesis. [20]

Where our analysis permits us to predict about the course of the ecological conditions, we should also be able to extend this prediction to the social structure. Since, under the given ecology, we can establish a maximum population for each Yaruro socio-cultural unit, and under the given technology we would expect no significant change in the ecology, no significant

[18,19,20 For footnotes see pp. 43-44 category 116 --Analyst]

3:Leeds E-5 (1958) 1962 SS19 Yaruro SS19

Ecological Determinants of Chieftainship among the Yaruro Indians of Venezuela

Anthony Leeds

121 622

I

Father John Cooper is said to have remarked once that when South American Tropical Forest tribal chiefs order their people to do something, the people immediately do as they choose. Certainly, as a general pattern of chieftainship, this is true among many groups,[1] and the Yaruro Indians of the south-central Venezuelan llanos are no exception. Among them, as with others, the very word chieftainship seems inappropriate. We shall use the term here, but it should only be understood as a convenience for designating our subject matter. Whether, in general, the functions of chieftainship in South America vary in importance as ecological conditions require differing chiefly activities, or whether chieftaincies were created or reinforced through the structure of statuses engendered in acculturation situations, as seems to have occurred in parts of Venezuela, or whether the varieties of chieftainship represent different evolutionary phases of development responding to the general conditions of the culture in which they occurred, is not yet clear. Presumably some consistent set of factors may be found, perhaps along the techno-ecological lines suggested by Sahlins or Harris[2] or the socio-economic conditions such as warfare suggested by Carneiro[3], which will serve as principles in the explanation of the tropical South American and other chieftainships of similar characteristics, such as some of those found in Melanesia. It is hoped that the following interpretation, largely dealing with the ecological foundations of chieftainship, will contribute towards this formulation of principles.

II

Briefly, Yaruro chieftainship is characterized by its ineffectiveness. The *capitan*, as he is called in Spanish, or *o'te-ta'ra* (elder head) in Yaruro, rarely commands. When he does, the commands most often are directed at children and young people, especially males, women, on the whole, being consulted not commanded. Most direct

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[1] E. g. Akawaio, Barama River Carib and other Carib groups, Canella, Carajá, Cayapó, Kiukuru, Shereste, Tauliping, Waika, etc. Cf. Lowie, 1949, especially pages 341—350.

[2] Harris, 1958; Sahlins, 1958.

[3] Carneiro, 1961.

represent his people to the outside world without consultation and to make arbitrary decisions for them inside the community — mainly in his own interest — was, with the consent of the community, assassinated by one of the members, now in excellent standing in that community as a respected shaman. The chief in question had stepped beyond the bounds designated for his status. In sum, the position of chief, even though formally recognized by Yaruro society and reinforced by formal recognition and appointment by Venezuelan authorities, is feeble as an institution and as a status.[6] It is our hypothesis that ecological conditions of Yaruro life determine the form of the chieftainship in such a way that its stronger institutionalization would be impossible, and we turn to this question now.

III

Yaruro subsistence activities[7] comprise swiddening, gathering, pig herding, hunting and fishing, mentioned in the order of their importance as contributors to the total food supply as measured in calories.[8] Horticulture probably provides 60—70% of the total annual food supply. The horticulture practiced is characteristic of tropical forest slash-and-burn gardens, with a slow rotation of plots in order to permit soil renewal and weed control. Trees are cut, at present with steel axes and formerly, apparently, with axes of bone or shell, and then burnt. Occasional fences are roughly made of the logs to keep out pigs. Bitter manioc (*Manihot utilissima*),[9] in several varieties, is the main crop, though sweet manioc (*Manihot aipi*), also in several varieties, is planted too, as are corn, bananas, sugar cane — each in several varieties — and a number of lesser crops such as melons, squashes, pumpkins, pineapples, sweet potatoes, and yautia or ocumo (*Xanthosoma sagittifolium*). Crops are planted with a digging stick which may also be used in harvesting. Gardens are weeded, once only, early in the growth of the crops. Other than clearing, the only soil preparation is the construction of hills for planting bananas. This is done by burning hills made by a certain species of ants (*huachaquero*). The hills, which are quite wide and low, are filled with organic matter enriching the soil.[10] Harvesting is aided with baskets for carrying the crops. Baskets contain about half a bushel or less. No fertilization, no terracing, no drainage, no irrigation, no extensive turning of the soil is done.

The gathered resources include a number of roots, particularly changuango, changuanito, and guapo (*Marante arundinacea*);[11] varied fruits, especially that of

[6] Professor Benjamin N. Nelson informs me that in medieval Spain, village communities had an official, also called *capitan*, whose function was to treat with state functionaries representing the world beyond the village community's frontier. It is possible that the Yaruro capitan, and many others in Venezuela, are an acculturative transfer of this office to tribal groups. In the case of the Yaruro, this would have happened some 250—300 years ago.

[7] The use, here, of the terms 'activity', 'tasks', 'techniques', 'tools', 'resources', and 'habitat' corresponds to the definitions given in Leeds, 1960 b.

[8] Cf. Leeds, 1961, which gives thir data in detail and describes the habitat and horticulture *in extenso*.

[9] Native terms for these crops are given *ibid.*

[10] *Ibid.*, note 9, contains data on soil values.

[11] Identifications are from Pittier, 1926.

and then shooting into the still side pools of a stream into which he has driven a post with bait attached. He may also stand in a canoe to shoot. It is reported, though I have not myself seen it, that barbasco (*Jacquinia revoluta* or *mucronulata*) poison is used by some Yaruro.[12] No nets, weirs, traps, sweeps, or artificial fish pools are used.

Given the techniques and tools of the Yaruro, all the subsistence activities described can conveniently be done by one person. Some *must* be done by one person only, since the tools and techniques themselves do not permit two or more persons to operate jointly. As it were, the logic of the tools and techniques concerned demands utilization by single persons.[13] Some of the tools and techniques might conveniently involve two or more persons, e. g. lashing tree trunks together to make a fence or cornering a capybara, but do not definitively *require* more than one person. Activities of all sorts may be done by aggregates of persons, each utilizing his own tools and techniques individually but neither the activity, the tools nor the techniques entail the aggregation of individuals. Thus, from the point of view of human organization, the technology, by itself, entails no managerial functions, no coordination of tasks which must be overseen by someone occupying an appropriately defined status.[14] That is, there are no technologically determined positions of leadership in Yaruro society. Further, the technology as such entails no significant cooperation in work organization, even when this is convenient, and correspondingly, no standard work groups or management functions, as represented in some defined status, for facilitating cooperation are to be expected or to be found. In fact, Yaruro technology and resource distribution are such as to elicit considerable dispersion of activities and actors at any given time of work, and to inhibit the development of rank and the personal acquisition of superordinating prestige.

IV

We may now examine the habitat aspect of the ecological relationship. A clearly marked annual cycle occurs in the Yaruro habitat.[15] However, despite a sharp seasonal change from heavy rains up to 60 inches in one half of the year to almost

[12] Personal communication from Mr. Thomas Rootes who has studied Yaruro linguistics for a number of months, having visited several groups.

[13] Different kinds of tools require different kinds of organization. A simple hand saw can be used by only one person at a time. A logging saw, though it can awkwardly be used by one person, is surely best used by two persons. Certain other saws, e. g. jig saws, make up one of a series of machine processes on a single part of a product, the entire series being the unit of operation which requires a still more complex level of organization. Cf. Leeds, 1960 b.

[14] For the structure of argument which is involved here, see Leeds, 1960 b.

[15] 'Habitat' here refers to all physical objects and conditions of the environment which are relevant to the existence or production of resources as defined by the culture. For the most part, then, 'habitat' refers to those environmental conditions such as humidity, temperature, insolation, rainfall, etc., which affect the food supply, as well as the food and water available for animals and plants and other culturally relevant physical objects. By extension, it refers to daily, seasonal, annual, and long-term variations and cycles in the various relevant factors of the environment, whether climatic, geologic, or biotic, which affect any of these supplies.

3:Leeds E-5 (1958) 1962 SS19 Yaruro SS19

distance of the gardens is too far from the village for effective or efficient exploitation. At this point a village or part of a village must move. Moving the villages involves decision-making with respect to time, new location, and so on. Plainly, moving a village involves a community decision. A community institution for handling the decision-making is necessary. Technologically speaking, the moving itself is not a community task and does not involve supervision and direction. Therefore, one would not expect the institution of decision-making to be a directive one, but a consultative one. Again this corresponds to the observed modes of action of the Yaruro chiefs. The chiefs' function is to facilitate the formation of the decisions of the community by funnelling and interpreting individuals' feelings and expressions to the rest of the members of the community.

In sum, I have presented a model of a form of ecology which, hypothetically, determines the limits within which any sort of chiefly functions may operate. This model, again hypothetically, is applicable to all cultures having the kind of technological and habitat characteristics and forms of surplus here described. I think the model applies particularly to cultures which grow root-crops such as manioc, which utilize no labor-concentrative techniques, such as irrigation, and for whose food resources notable seasonality is absent. Such cultures have been noted widely in tropical South America and also in Melanesia. In both areas, chiefly functions are notably limited as contrasted, say, with Circum-Caribbean corn-raising cultures with some irrigation and other intensive techniques[24] and with Polynesian high cultures with elaborate irrigation and other public works.[25] It should be noted, first, that the Yaruro were not far from these Circum-Caribbean chiefdoms and even show a number of trait similarities, and, second, that the Yaruro have been under Spanish acculturation, which has involved encouragement of chiefly functions, for probably 250 years. Yet, despite the pressures of both diffusion and acculturation to produce a more developed chieftaincy, the attenuated form described persists. The explanation of this persistence seems to me to be ecological. I suggest that the model of explanation presented here is based on a set of analytic dimensions — the characteristics of the technology, those of the habitat, those of the harvest surplus, and the interrelationships of these — which may be used for all cultures, but whose formal, systemic relations vary from culture to culture, or class of cultures to class of cultures, thus giving different models for different cultures or classes of cultures. By using such dimensions, one can account for cultural differences by means of a standard set of principles, thus facilitating genuine comparisons and generalizations.

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[24] Cf. Sturtevant, 1961; Reichel-Dolmatoff, 1961.
[25] Cf. Sahlins, 1958.

4: Leeds E-5 (1958) 1960 SS19 Yaruro SS19

[P. 1]

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THE IDEOLOGY OF THE YARURO INDIANS IN RELATION TO SOCIO-ECONOMIC ORGANIZATION

Anthony LEEDS

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It is the purpose of this paper to show the correspondence between the principles of socio-economic organization of the Yaruro Indians and their ideology and to isolate some dimensions of ideology which may be used for comparative purposes. It is hoped that by further isolation of such categories it will eventually become possible to compare the structure and content of widely different ideologies, as we today are able to compare kinship systems, so that we may be able to recognize synchronic regularities of a functional order and diachronic regularities of an evolutionary sort. Yaruro religious and philosophical beliefs are reduced to a series of postulates or axioms about the nature of the universe and man in an analysis somewhat like Kluckhohn's study of Navaho philosophy and Opler's of Apache themes. (1). No Yaruro would be able to express the axioms nor see them in the logical series as presented here, yet each would recognize them, when couched in the phrasings of his own language, as referring to his particular *Weltanschauung*. The postulates are derived from direct statements by informants about the cosmos or about human living, from other verbal materials such as discussions of disease and social organization, and, more occasionally, from observed behavior. The generalized titles introducing each of the summarized postulates appearing at the end of the paper comprise the dimensions, here inductively arrived at, which may serve for cross-cultural analysis.

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The Yaruro Indians have been living in the savannas or llanos of Southern Venezuela for an unknown number of centuaries. They have developed a socio-economic life well-articulated to the geographical conditions of life.

[131]

The gross geographical characteristics of the alternately desert-like and flood-covered llanos cause all the best economic resources to be concentrated

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(1) Kluckhohn (1949); Opler (1945).

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Contribution to the Study of the Yaruro and Otomac Indians (Venezuela)

continuation II (1)

1. See "infra" IV List...36.

I. Notes on the origins, way of life, and history of the Yaruro.
II. Notes on the Otomaco /Otomac/.
III. Complementary observations on the habitat of the Yaruro.
IV. List of works and diverse documents relating to the study of the Yaruro and the Otomaco.
V. Corrections for the first part of this study /omitted in the translation of this second part, but incorporated in the translation of the first part/ (1).

1. See "infra" IV List...36.

I. Notes on the origins, way of life, and history of the Yaruro.

a) Origins

121 174 We do not yet know all about the origin and the pre-Colombian past of the Yaruro. Have they lived since the most remote times on the territory which they now occupy (1) or,

1. See "infra" IV List ... 36.

on the contrary, did they come to settle there at a less distant period, and in this case, how and why? Were they formerly powerful, numerous, and masters of a vast territory--their present-day descendants let it be understood--and, if so, what vicissitudes have reduced them to the present small group? Are the excesses of their civilized neighbors and the epidemics

/7 cont./

121 carried by the latter the only causes for it, as was the case
174 for numerous tribes after the arrival of the Spaniards, or should one also search for other more distant ones?

/8/ Our investigations have not furnished us with any direct answer to these questions. We should not try to give any as long as there have not been carried out comparative studies of language--up to the present their dialect has not been linked with any of the known large linguistic families of South America --and culture with the other societies of tropical South America--and perhaps also of more distant regions. As for the ties which might have united them formerly with the Otomaco, for the same reasons we cannot say more about them than what they say themselves (see "infra": II Notes on the Otomaco) as a complement to Angel Rosenblat's study on the Otomaco and Taparita (2).

2. Id. 54.

b) Way of life

114 Relying on Vicenzo Petrullo's investigations (3), Alfred
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3. Id. 52.

Métraux (4) extends to the Yaruro the alternative he poses with

4. Id. 45.

regard to the way of life of certain tribes occupying the drainage basin of the Orinoco and the Amazon, which contrasts by its primitiveness--the absence of agriculture and nomadism--with that of the majority of the tribes of these same regions, who practice agriculture (5). He writes: "Are these Indians

/8 cont./

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5. This paragraph had been published when we learned of Anthony Leeds' articles (see "infra" IV List...42 and 43). The latter considers that agriculture, which exists among the Yaruro, as we acknowledge further along, was introduced by missionaries at the beginning of the eighteenth century.

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descendants of the first inhabitants, hunters and gatherers who invaded South America at the beginning of the Neolithic Age, as Father Cooper suggests, or are they groups of Indians who after diverse vicissitudes have degenerated and adapted their civilization to a new way of life, as Levi-Strauss insists?"

121 Immigrants or not, hunters, fishers, and gatherers who evolved, or agriculturists who regressed, we shall not make a choice here between these alternatives and shall limit ourselves to presenting two observations which, gone into more deeply, will eventually permit opting in favor of one of the theses before us.

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241 1) The tropical savanna inhabited by the Yaruro, as a consequence of the absence of extensive forests, is hardly propitious for primitive agriculture. The latter could, however, be carried out there on a small scale.

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241 The Yaruro, in fact, and contrary to Vicenzo Petrullo's observations, are not only gatherers, fishers, and hunters, but also practice agriculture, in general on land cleared in the forest corridors. Petrullo probably did not observe this aspect of their way of life (6) because he carried out his investigations

6. We made, moreover, the identical error in the course of our first investigations (see "infra" IV List...40).

at the height of the dry season--when the soil /9/ is no longer

/9 cont./

114 productive and the Yaruro are living mainly on sandy shores,
121 leading the life of fishers and nomadic gatherers--and limited
241 them to the lower Capanaparo. There these Indians do not
work the land, or at least very little; apparently for reasons
linked with the proximity of Venezuelan peasants, such as:
interdiction on the part of the latter who, with or without title,
are masters of the land, the risk of being overrun by the free-
roaming livestock, or simply work as peons on the farms, which
would hardly allow them time to cultivate the land.

241 In fact, agriculture is only practiced on certain portions of their territory and particularly on those where they do not have contact with the Venezuelan peasants. This statement excludes at first sight the recent acquisition of it from the latter. Such a deduction is moreover corroborated by the accounts of the Jesuits (7) who lived for a while in the region in the eigh-

7. See "infra" IV List...2.

teenth century and who already described them as agriculturists--without specifying whether they had been before their arrival--and by the present Yaruro themselves, who affirm that they all formerly had conucos (8). But these points still do not

8. Kitchen gardens, in Venezuelan.

allow us to assert that they were in possession of the technique in the pre-Hispanic period.

172 2) The region, on the other hand, is rich in archaeological sites containing objects (pottery remains, figurines of baked clay and lignite, polished stone axes, funeral urns) which are of a completely different make from those made by the present-day Yaruro, who, moreover, do not recognize them as being of their making. Is it a question of remains of objects of forerunners or remains of objects of the Otomaco, who at the time of the Jesuits apparently lived in the present-day territory

7: Leeds E-4, 5 (1958) 1964 SS19 Yaruro SS19

Some Problems of Yaruro Ethnohistory*

Anthony Leeds

I was first led to consider Yaruro history because the ethnographic phenomena I found differed radically from those described by Petrullo (1939 *a*). Only historical research could resolve these differences. I shall first examine the discrepancies, then turn to the kinds of historical sources relevant to resolving the problems and to some of the material already examined, and, finally, briefly discuss the direction that the results appear to be taking.

I

Petrullo, describes the Yaruro of the Capanaparo River as being hunters of river and llanos animals, fishers of river fish, and gatherers of seeds, roots, and fruits. He denies the presence of horticulture, except among a few "acculturated" groups. As far as the monograph informs us, he visited only Yaruro near the mouth of the Capanaparo and on islands in the Orinoco during the months of the dry season. He did not visit the Arauca, Cunaviche, upper Capanaparo, Riccito, and Sinaruco rivers, on all of which Yaruro are found today, and apparently have been living indefinitely into the past, according to old maps.[1] On the basis of the groups visited, he asserts that the Yaruro were not horticultural. Kirchhoff (1948 *a*: 456) repeats this assertion, adding that Gilij (1780-1784: Vol. 3) mentions the use of green corn — a sign, according to Kirchhoff, of the recent adoption of corn at that time. No basis is given for this statement. Le Besnerais, in several publications (1948; 1950 *a;* 1951; and, with Dreyfus-Roche, 1954), repeats that the Yaruro were hunters and gatherers, but, in his most recent work (1950 *b;* 1954; Ms.; Personal communication,

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1 Cf. maps listed in the special section of the bibliography, many of which show the location of the Yaruro, Otomaco, Achagua ("as Chaguas"), Sáliva, Aruaca, Caribe, or a number of other tribes at various points in history.